

REMARKS

Claims 1-5 and 13-14 are pending.

It is believed that this Amendment is fully responsive to the Office Action dated **May 6, 2002**.

Rejection Under 35 U.S.C. §102:

claims 1, 3 and 4 are rejected under 35 U.S.C. §102(e) as being anticipated by **Shibata (U.S. Patent No. 6,034,437)**.

In the outstanding Office action, regarding the Shibata reference, it has been positively stated in relevant part that:

“Regarding claim 1, Shibata discloses in Figs. 1 and 7 a semiconductor device comprising:

a redistribution layer (8) having a plurality of electrode pads (7a) and conductive patterns (7c) connecting the electrodes (5) of the semiconductor element to the respective electrode pads (7a);

a plurality of metal posts (9) formed on the electrode pads of the redistribution layer, the metal posts being configured to be provided with external connection electrodes (3); and

at least one mark member, readable on any one of posts 9, which serves as an alignment mark located in a predetermined positional relationship with the metal posts, wherein the mark member is made of the same material as the metal posts.”

In the same rejection, the Office further stated that:

“Regarding claim 4, Shibata discloses in Figs. 1 and 7 a semiconductor device comprising:

a semiconductor element (1) having a plurality of electrodes (5);

a redistribution layer (8) which connects the electrodes (5) of the semiconductor device to electrode pads (7a) located in predetermined positions of the redistribution layer; and

at least one mark member, readable on any one of posts 9, which serves as an alignment mark located in a predetermined positional relationship with the electrode pads,
wherein the mark member is made of the same material with the electrode pads.”

In the first Office action dated September 29, 2001, in item 10 regarding the same Shibata reference, it has been positively stated that:

“Note Fig. 12 of Shibata, where the reference shows a semiconductor device comprising ... except at least mark member which serves as an alignment mark located in a predetermined positional relationship with the metal posts, wherein the mark member is made of the same material as the metal posts.”

It is very interesting that regarding the same reference Shibata, the Office in a first version of the rejection admits that it fails to disclose or teach “at least mark member which serves as an alignment mark located in a predetermined positional relationship with the metal posts, wherein the mark member is made of the same material as the metal posts”; however, in a second version of the rejection, the Office alleges that the same features are disclosed.

However, what is more interesting is that in the second version of the rejection, the Office has consistently provided parenthetical insertions to communicate what element in Shibata is the alleged claimed element of the present invention. When it comes to the claimed language of “at least one mark member, readable on any one of posts 9, which serves as an alignment mark located in a predetermined positional relationship with the electrode pads, wherein the mark member is made of the same material with the electrode pads”, the Office fails to communicate by the same type of parenthetical insertions as to where the claimed elements and relationships are disclosed in Shibata.

Perhaps a logical explanation of this inconsistency in practice within the same Office action is that the claimed features simply cannot be found in Shibata. If that is not the case, a citation of where the feature of “at least one mark member, readable on any one of posts, which serves as an alignment mark located in a predetermined positional relationship with the electrode pads, wherein the mark member is made of the same material with the electrode pads” is disclosed in Shibata is respectfully requested.

In fact, as explained in Shibata, reference numeral 5 designates an electrode pad, not an electrode as asserted in the Office action; reference numeral 6 designates an insulating layer, not a redistribution layer as asserted in Office action; reference numeral 8 designates a second insulating layer, not a redistribution layer as asserted by in the Office action; reference numeral 9 designates a first terminal bump, not a metal post as asserted in Office action; reference numeral 7 designates a connector pattern, not an electrode pad as asserted in the Office action. Therefore, even Shibata disagrees with the Office interpretation of this reference. Since the Office has incorrectly interpreted various individual elements, the Office assertion of the inter-relationships among these elements are also incorrect.

It is well settled that:

“A claim is anticipated only if each and every element *as set forth in the claim* is found, either expressly or inherently described, in a single prior art reference.”
Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1567, 7 USPQ2d 1057 (Fed. Cir. 1988).

For the foregoing reasons, it is respectfully submitted that independent claims 1 and 4 patentably distinguish over Shibata. All claims dependent thereon, by virtue of inherency, also

patentably distinguish over Shibata. Reconsideration and withdrawal of this rejection are respectfully requested.

Claim 13 is rejected under 35 U.S.C. §102(e) as being anticipated by **Ishikawa et al. (U.S. Patent No. 6,280,308)**.

In this rejection, the Office action has stated in its entirety that:

“ Ishikawa et al. discloses in Fig. 3 and column 5, lines 54-57 an apparatus for fixing a semiconductor wafer (26) by suction, comprising:
a vacuum chuck table (70) having a porous plate overlaying a plurality of concentric suction grooves (78 A-78D);
a plurality of suction passages (80A 80D) being connected to the plurality of concentric suction grooves, the plurality of concentric suction grooves (78A-78D) being divided into a plurality of groups so that each of the plurality of suction passages is connected to one of a corresponding suction grooves belonging to one of the plurality of groups (see Fig. 3 and Fig. 4); and
means for sequentially introducing a suctioning force into the suction passages (80A 80D) at different timing.”

Therefore, in this rejection, the Examiner is taking a position that reference numeral 70 of Ishikawa is a vacuum chuck table. However, Ishikawa discloses reference numeral 70 as a wafer transport robot, not at all a vacuum chuck table. The position taken by the Office is thus not substantiated by Ishikawa.

Furthermore, Ishikawa et al. discloses different suction systems so as to fix wafers having different diameters. The present invention, however, features a suction system which applies a suction force to a wafer sequentially from the inner side toward the outer side, so as to positively fix a warped wafer.

Moreover, as correctly identified by the Office, Ishikawa indeed discloses a plurality of

suction grooves (Fig. 3, #78 A ~ 78D) and a plurality of suction passages (Fig. 3, #80A ~ 80D). However, they are integral parts of a pad body 76, not at all part of the chuck table 48. Therefore, the Office statement that Ishikawa et al. discloses a chuck table “having a plurality of concentric suction grooves (78 A ~ 78D); and suction passages (80A ~ 80D) connected to the suction grooves (see Fig. 3)” is simply unsupported by Ishikawa. Should the Office continues to maintain this position, the Applicants respectfully request the Office to provide citations as to where in Ishikawa is there a disclosure of a chuck table having any suction grooves, suction passages and the suction groups being divided into groups.

It is well settled that:

"A claim is anticipated only if each and every element *as set forth in the claim* is found, either expressly or inherently described, in a single prior art reference." *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1567, 7 USPQ2d 1057 (Fed. Cir. 1988).

Since Ishikawa fails to disclose a chuck table having suction grooves, suction passages and having the suction passages being divided into groups, as positively claimed in independent claim 13. Independent claim 13 patentably distinguishes over Ishikawa. Reconsideration and withdrawal of this rejection are respectfully requested.

Rejection Under 35 U.S.C. §103:

Claims 2 and 5 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Shibata (U.S. Patent No. 6,034,437)** in view of **Nara et al. (U.S. Patent No. 5,565,988)**.

The outstanding Office action has specifically stated that:

“Shibata does not disclose the alignment mark having an outer configuration other than a circle.”

It should be noted that Shibata actually fails to disclose or teach an alignment mark altogether. The subject matter of claims 2 and 5 cannot be derived from the combination of the Shibata reference and the Nara et al. reference for the same reasons as those made in response to the 102(e) rejections. Therefore, arguments made in response to those 102(e) rejections are asserted herein by reference and the same arguments are not redundantly listed herein.

Additionally, the Nara et al. reference is related to a field completely different from the field of the present invention.

Therefore, introducing an alignment mark 20a of Nara et al. is tantamount to relying upon hindsight reconstruction to pick and choose among isolated disclosure in the prior art to deprecate the claimed invention. In this regard, it is well-settled that:

“[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined *only* if there is some suggestion or incentive to do so.” *ACE Hospital Systems, Inc. v. Montefiore Hospital et al.*, 221 USPQ 929, 933 (Fed. Cir. 1984).

It is also well settled that:

“One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

It is respectfully submitted that the Office, in formulating this obviousness rejection, is indeed relying upon impermissible hindsight reconstruction to pick and choose amount isolated disclosure in the prior art to deprecate the claimed invention. Reconsideration and withdrawal of

this rejection are respectfully requested.

Prior Art Indicated to be Pertinent to the Disclosure

The Office has provided a list of prior art indicated to be pertinent to the Applicant's invention. Consistent with the understanding as stipulated in MPEP 706.02 that only the best prior art should be applied, this list of prior art not having been applied by the Office, naturally, the Office must have considered them to be no more pertinent than the applied prior art of record.

New Claim:

Independent claim 14 is added herein by amendment. Independent claim 14 differs from independent claim 1 in that a further feature wherein the mark member is located at a position different from positions of the metal posts. These features are graphically depicted in Figure 2 of the present invention, where mark members 24 are indeed located at different positions from metal posts 16.

Therefore, allowance of this claim is respectfully requested.

CONCLUSION

In view of the aforementioned amendments and accompanying remarks, all pending claims are believed to be in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully Submitted,

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